

ABSTRACT

Methods and system for sub-ambient pressure control for column head pressure in gas chromatography (GC) systems. The GC system includes an inlet and a capillary column connected to the inlet. The inlet includes a valve that regulates an inlet pressure and pressure sensor that measures the inlet pressure and outputs a signal that indicates a measured inlet pressure. The GC system also includes an inlet-pressure set-point that can be set to a negative pressure set-point representing a pressure below ambient pressure, the negative pressure set-point driving the valve to change the inlet pressure until the measured inlet pressure equals the negative pressure set-point.